PPSC Network Engineer — GUESS PAPER 2026 (Set 2 of 2) · Predicted Questions

Body: Punjab Public Service Commission (PPSC) · **Post:** Network Engineer · **Set:** 2 of 2 · **Questions:** 100 predicted — 0 repeated questions, 60 verified facts predicted to recur, 40 syllabus anchors · **Price:** Free

GUESS PAPER — predicted questions for the upcoming exam, NOT a past paper. Every question below is a prediction: it is here because the same question, the same fact, or the same topic appeared in verified PPSC Network Engineer past papers. **No pass guarantee.** A guess paper raises the odds; it does not promise a result. Answers are the best-supported answers, not exam keys.

[C]-HEAVY PAPER — thin verified pool. 40 of the 100 questions below are syllabus anchors on this post's recurring topics, because the verified archive for this post holds only 98 items. Those questions are flagged [C] on every one of them: they are predictions about the syllabus, not verified facts. Study the topic, not just the answer.

> **How to use this paper:** study the basis under each question, not just the answer — the real paper will ask the same topics in different words. Revise the underlying topic, not only the four options. Do not quote any item as "asked in the 2026 exam" — nothing here has been asked yet.

Question 1 Networking (Tcp/Ip)

A ping to the loopback address never leaves the host. What happens to the packet instead?

- A. It is sent out onto the network
- B. It passes through a loopback dongle
- C. It travels across the wire to the gateway
- D. It goes down through the local IP layers and comes back up again ✓ **Predicted**

Why this answer? The loopback packet is processed down and back up the local stack; it never leaves the host.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q20 (loopback ping goes down the local stack and back up).

Question 2 Networking (Tcp/Ip)

Which transport protocol lets one application send a datagram straight to an application on another machine?

- A. SMTP
- B. VMTP
- C. X.25
- D. UDP ✓ **Predicted answer**

Why this answer? UDP sends connectionless datagrams between applications.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q23 (UDP sends a datagram to an application on another machine).

Question 3 Networking (Tcp/Ip)

Of the transport-layer protocols, which one sends its datagrams without first setting up a connection?

- A. UDP ✓ **Predicted answer**
- B. TCP
- C. FTP
- D. SMTP

Why this answer? UDP is connectionless; TCP is connection-oriented.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-

Q26 (UDP is the connectionless transport protocol).

Question 4 Networking (Tcp/Ip)

To open a secure website, a browser connects to the HTTPS port. Which one is it?

- A. 99
- B. 80
- C. 443 ✓ **Predicted answer**
- D. 400

Why this answer? 443 is the well-known port for HTTPS; 80 is plain HTTP.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q29 (default HTTPS port is 443).

Question 5 Networking (Tcp/Ip)

Name the standard suite of protocols that the Internet runs on.

- A. TCP/IP ✓ **Predicted answer**
- B. Protocol
- C. Open system
- D. Internet work processor

Why this answer? TCP/IP is the standard protocol suite of the Internet.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q33 (TCP/IP is the standard suite of the Internet).

Question 6 Networking (Tcp/Ip)

You know a host's domain name and want its address. What does DNS return?

- A. Station address
- B. Checksum

- D. IP address ✓ **Predicted answer**

Why this answer? DNS resolves a domain name to an IP address, and can do the reverse lookup too.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q37 (DNS obtains the IP address of a host from its domain name).

Question 7 Networking (Tcp/Ip)

The OSI model splits the top of the stack into three layers. The TCP/IP model merges them into one. Which TCP/IP layer is that?

- A. Application ✓ **Predicted answer**
- B. Presentation
- C. Session
- D. Transport

Why this answer? The TCP/IP application layer covers the OSI application, presentation and session layers.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q42 (TCP/IP application layer covers three OSI layers).

Question 8 Networking (Tcp/Ip)

The internet layer of the TCP/IP model has its own data unit. What is it?

- A. Message
- B. Segment
- C. Datagram ✓ **Predicted answer**
- D. Frame

Why this answer? The data unit at the TCP/IP internet layer is a datagram.

ed [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q44 (data unit at the TCP/IP internet layer is a datagram).

Question 9 Networking (Tcp/Ip)

What do the letters PING stand for?

- A. Protocol Internet Gateway
- B. Protocol Internet Groper
- C. Packet Intranet Gateway
- D. Packet Internet Groper ✓ **Predicted answer**

Why this answer? PING stands for Packet Internet Groper.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q45 (full form of PING is Packet Internet Groper).

Question 10 Networking (Tcp/Ip)

Put the encapsulation steps in order from the top of the stack to the bottom.

- A. Data, segment, packet, frame, bits ✓ **Predicted answer**
- B. Data, frame, packet, segment, bits
- C. Bits, data, packet, frame
- D. Bits, frame, data, packet

Why this answer? Application data becomes a transport segment, then a network packet, then a link frame, then physical bits.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q51 (encapsulation order is data, segment, packet, frame, bits).

Question 11 Networking (Tcp/Ip)

Plain HTTP traffic travels on which well-known port?

- B. 80 ✓ **Predicted answer**
- C. 90
- D. 21

Why this answer? 80 is the well-known port for HTTP.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q57 (default HTTP port is 80).

Question 12 Networking (Tcp/Ip)

Which protocol does a mail client use to send email to a mail server?

- A. SMTP ✓ **Predicted answer**
- B. POP3
- C. IMAP
- D. FTP

Why this answer? SMTP sends mail from a client to a server and between servers; POP3 and IMAP fetch mail.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): mail protocols recurs in every sitting of this post.

Question 13 Networking (Tcp/Ip)

FTP normally uses which port for its control connection?

- A. 20
- B. 21 ✓ **Predicted answer**
- C. 22
- D. 23

Why this answer? Port 21 is the FTP control port (port 20 carries the data).

ed [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

Question 14 Networking (Tcp/Ip)

SSH, the secure remote-login protocol, uses which port?

- A. 21
- B. 22 ✓ **Predicted answer**
- C. 23
- D. 25

Why this answer? Port 22 is the well-known SSH port.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

Question 15 Networking (Tcp/Ip)

Telnet uses which well-known port?

- A. 21
- B. 23 ✓ **Predicted answer**
- C. 25
- D. 110

Why this answer? Port 23 is the well-known Telnet port.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

Question 16 Networking (Tcp/Ip)

POP3, used to download mail from a server, listens on which port?

- A. 25

- C. 143
- D. 443

Why this answer? Port 110 is the well-known POP3 port.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

Question 17 Networking (Tcp/Ip)

IMAP, used to read mail that stays on the server, uses which port?

- A. 110
- B. 143 ✓ **Predicted answer**
- C. 25
- D. 53

Why this answer? Port 143 is the well-known IMAP port.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

Question 18 Networking (Tcp/Ip)

SNMP, used to monitor and manage network devices, uses which port?

- A. 53
- B. 69
- C. 161 ✓ **Predicted answer**
- D. 443

Why this answer? Port 161 is the well-known SNMP port.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): well-known port numbers recurs in every sitting of this post.

19 Networking (Tcp/Ip)

How many bits long is an IPv4 address?

- A. 16
- B. 32 ✓ **Predicted answer**
- C. 64
- D. 128

Why this answer? An IPv4 address is 32 bits long, written as four octets.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): IP addressing recurs in every sitting of this post.

Question 20 Networking (Tcp/Ip)

How many bits long is an IPv6 address?

- A. 32
- B. 64
- C. 128 ✓ **Predicted answer**
- D. 256

Why this answer? An IPv6 address is 128 bits long.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): IP addressing recurs in every sitting of this post.

Question 21 Networking (Tcp/Ip)

The address 192.168.1.1 belongs to which private address range?

- A. 10.0.0.0/8
- B. 172.16.0.0/12
- C. 192.168.0.0/16 ✓ **Predicted answer**
- D. 224.0.0.0/4

swer? 192.168.0.0/16 is the private range that contains 192.168.1.1.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (TCP/IP): IP addressing recurs in every sitting of this post.

Question 22 Networking (Access Methods)

In Ethernet, CSMA is the access method. What do its letters mean?

- A. Carrier Sense Multiple Access ✓ **Predicted answer**
- B. Carrier Switch Multiple Access
- C. Carrier Switch Medium Access
- D. Control Sense Multiple Access

Why this answer? CSMA stands for Carrier Sense Multiple Access.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q16 (CSMA is Carrier Sense Multiple Access).

Question 23 Networking (Access Methods)

Two stations on a shared medium both want to transmit at once. What is this competition for the channel called?

- A. A bus
- B. A carrier
- C. Contention ✓ **Predicted answer**
- D. A network

Why this answer? Contention is when two or more stations attempt to use the same channel at the same time.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q17 (contention is stations attempting to use the same channel).

24 Networking (Access Methods)

On a shared medium, two computers send at the same instant and their signals clash. What is this event called?

- A. Latency
- B. Dispersion
- C. Collision ✓ **Predicted answer**
- D. Obstruction

Why this answer? Two transmissions overlapping on a shared medium is a collision.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q53 (two bits on a shared medium at the same time is a collision).

Question 25 Networking (Access Methods)

Within a certain area of a network, any two packets can run into each other. What is that area called?

- A. Network segment
- B. Collision segment
- C. Network domain
- D. Collision domain ✓ **Predicted answer**

Why this answer? The collision domain is the area where packets can collide.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q54 (area where packets originate and collide is a collision domain).

Question 26 Networking (Access Methods)

Which of these best describes a collision in an Ethernet network?

- A. The result of having non-OSI-compliant protocols on the network
- B. The effect when two nodes have the same MAC address

result of two nodes transmitting at the same time ✓ **Predicted answer**

- D. The effect of having too many repeaters in a network

Why this answer? An Ethernet collision is the result of two nodes transmitting at the same time.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q56 (collision in Ethernet is two nodes transmitting at the same time).

Question 27 Networking (Access Methods)

In Ethernet, what does CSMA/CD do when a collision is detected?

- A. The network switches to a backup ring
- B. The token is passed to the next station
- C. The frame is sent again immediately
- D. The stations wait a random time and try again ✓ **Predicted answer**

Why this answer? After a collision, each station waits a random back-off time before retrying.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Access Methods): Ethernet access methods recurs in every sitting of this post.

Question 28 Networking (Access Methods)

Which access method do wireless LANs use to avoid collisions?

- A. CSMA/CD
- B. Polling
- C. Token passing
- D. CSMA/CA ✓ **Predicted answer**

Why this answer? Wireless LANs use CSMA/CA (collision avoidance), since a wireless station cannot reliably detect a collision while transmitting.

ed [C] — Syllabus anchor: syllabus anchor — Networking (Access Methods): Ethernet access methods recurs in every sitting of this post.

Question 29 Networking (Access Methods)

In token passing, what must a station hold before it may transmit?

- A. A free token ✓ **Predicted answer**
- B. A collision window
- C. A broadcast address
- D. A subnet mask

Why this answer? Only the station holding the free token may transmit.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Access Methods): token passing recurs in every sitting of this post.

Question 30 Networking (Subnetting)

Take the address 192.168.10.51 with its default mask. Which part of it is the network ID?

- A. 192
- B. 192.168.10 ✓ **Predicted answer**
- C. 0.0.0.5
- D. 51

Why this answer? With the default class C mask 255.255.255.0, the first three octets are the network ID.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q25 (network ID of 192.168.10.51 is 192.168.10).

Question 31 Networking (Subnetting)

Which of these addresses is a broadcast address for a class B network?

- .255.255.255 ✓ **Predicted answer**
- B. 123.14.2555.255
- C. 123.13.0.0
- D. 123.1.1.1

Why this answer? A broadcast address has all host bits set to 1; 123.255.255.255 is the only option in broadcast form.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q74 (broadcast address for a class B network is 123.255.255.255).

Question 32 Networking (Subnetting)

How many usable host addresses are there in a class C network?

- A. 254 ✓ **Predicted answer**
- B. 255
- C. 256
- D. None of the options

Why this answer? 256 addresses minus the network and broadcast addresses leaves 254 usable hosts.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q75 (class C network has 254 host addresses).

Question 33 Networking (Subnetting)

How many bits can be borrowed at most to subnet a class C network?

- A. 2
- B. 4
- C. 6 ✓ **Predicted answer**
- D. 8

swer? At most 6 of the 8 host bits can be borrowed, leaving 2 host bits for hosts.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q77 (6 bits can be borrowed to subnet a class C network).

Question 34 Networking (Subnetting)

Why does a router AND the subnet mask with a destination address?

- A. To work out the host numbers so it knows where to send the packet
- B. To work out the subnet mask and compare it with the routing table
- C. To work out which network and subnet to send the packet to ✓ **Predicted answer**
- D. None of the options

Why this answer? ANDing the destination address with the mask gives the destination network and subnet.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q78 (router ANDs the mask to derive the network and subnet).

Question 35 Networking (Subnetting)

A class C address 197.15.22.31 has the mask 255.255.255.224. How many bits were borrowed to make the subnet?

- A. 1
- B. 2
- C. 3 ✓ **Predicted answer**
- D. None of the options

Why this answer? 224 = 11100000, three 1-bits beyond the class C default /24, so 3 bits were borrowed.

ed [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q79 (mask 255.255.255.224 means 3 bits borrowed).

Question 36 Networking (Subnetting)

What is the default subnet mask of a class A network?

- A. 255.0.0.0 ✓ **Predicted answer**
- B. 255.255.0.0
- C. 255.255.255.0
- D. 255.255.255.255

Why this answer? The class A default mask is /8: only the first octet is the network part.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Subnetting): classful masks recurs in every sitting of this post.

Question 37 Networking (Subnetting)

What is the default subnet mask of a class B network?

- A. 255.0.0.0
- B. 255.255.0.0 ✓ **Predicted answer**
- C. 255.255.255.0
- D. 255.255.255.255

Why this answer? The class B default mask is /16.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Subnetting): classful masks recurs in every sitting of this post.

Question 38 Networking (Subnetting)

A subnet mask of 255.255.255.128 leaves how many usable host addresses?

- A. 126 ✓ **Predicted answer**

- C. 254
- D. 256

Why this answer? A /25 subnet has 128 addresses; minus the network and broadcast addresses, 126 hosts remain.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Subnetting): subnet sizes recurs in every sitting of this post.

Question 39 Networking (Fundamentals)

Which device converts between the digital signals of a computer and the analogue signals of a telephone line?

- A. Multiplexer
- B. Gateway
- C. Protocols
- D. Modem ✓ **Predicted answer**

Why this answer? A modem modulates digital data onto an analogue carrier and demodulates it back.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q1 (modem is used for modulation and demodulation).

Question 40 Networking (Fundamentals)

On a 4800 bps line, about one bit in a thousand is received wrongly. Frames of 9 bits are sent with no error detection — roughly what share of frames will carry an error?

- A. 0.009 ✓ **Predicted answer**
- B. 0.099
- C. 0.991
- D. 0.999

swer? 1 minus (1 minus 10 to the power -3) to the power 9 is approximately 9 times 10 to the power -3 = 0.009.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q2 (residual error rate for 9-bit frames is 0.009).

Question 41 Networking (Fundamentals)

In full-duplex data transmission, both the sender and the receiver are able to do what at the same time?

- A. Neither can talk while the other talks
- B. Send and receive simultaneously ✓ **Predicted answer**
- C. Take turns, one at a time
- D. Transmit in one direction only

Why this answer? In full duplex both sender and receiver can send and receive simultaneously.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q11 (in full duplex both can send and receive simultaneously).

Question 42 Networking (Fundamentals)

Using binary-level signals, what is the fastest rate a noiseless 3 kHz channel can manage?

- A. 3 Kbps
- B. 6 Kbps ✓ **Predicted answer**
- C. 12 Kbps
- D. 24 Kbps

Why this answer? Nyquist gives 2 times 3000 times log base 2 of 2 = 6000 bps.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-

Q31 (noiseless 3-kHz channel maximum rate is 6 Kbps).

Question 43 Networking (Fundamentals)

What is the general name for any electronic device attached to a network?

- A. Cable
- B. Hub
- C. Router
- D. Node ✓ **Predicted answer**

Why this answer? Any device on a network is a node.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q91 (any electronic device on a network is a node).

Question 44 Networking (Fundamentals)

What is meant by the bandwidth of a channel?

- A. The physical length of the cable
- B. The time a signal takes to reach its destination
- C. The number of errors in a transmission
- D. The amount of data it can carry per second ✓ **Predicted answer**

Why this answer? Bandwidth is the amount of data a channel can carry in a given time, usually bits per second.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Fundamentals): transmission basics recurs in every sitting of this post.

Question 45 Networking (Fundamentals)

In half-duplex transmission, what can the two stations do?

- A. Send and receive at the same time

- e turns sending and receiving ✓ **Predicted answer**
- C. Send in one direction only
- D. Receive only, never send

Why this answer? In half duplex each station takes turns: it can send or receive, but not both at once.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Fundamentals): transmission modes recurs in every sitting of this post.

Question 46 Networking (Devices)

To get frames from one LAN across to another LAN, which device do you use?

- A. Router
- B. Bridge ✓ **Predicted answer**
- C. Repeater
- D. Switch

Why this answer? A bridge forwards frames between LAN segments.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q3 (frames pass between LANs via a bridge).

Question 47 Networking (Devices)

Two LANs in different parts of town must share data and resources. Which device should join them?

- A. Modem
- B. Cable
- C. Hub
- D. Router ✓ **Predicted answer**

Why this answer? A router forwards traffic between the two separate LANs.

ed [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q9 (two LANs are connected by a router).

Question 48 Networking (Devices)

Which device is used to connect two systems that use different protocols?

- A. Hub
- B. Bridge
- C. Gateway ✓ **Predicted answer**
- D. Repeater

Why this answer? A gateway connects systems that use different protocols.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q22 (gateway connects systems using different protocols).

Question 49 Networking (Devices)

What device combines transmissions from several I/O devices into one line?

- A. Concentrator
- B. Modifier
- C. Multiplexer ✓ **Predicted answer**
- D. Adder

Why this answer? A multiplexer combines transmissions from several I/O devices into one line.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q40 (multiplexer combines I/O transmissions into one line).

Question 50 Networking (Devices)

Which piece of equipment, fitted inside a PC, allows the PC to connect to a network?

- B. Access Router
- C. Graphic Accelerator Card
- D. Network Interface Card ✓ **Predicted answer**

Why this answer? The network interface card connects the PC to the network.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q92 (NIC installed in a PC connects it to the network).

Question 51 Networking (Devices)

Which device joins several network segments and forwards traffic using MAC addresses?

- A. Hub
- B. Modem
- C. Router
- D. Switch ✓ **Predicted answer**

Why this answer? A switch forwards frames between segments using MAC addresses; a hub only repeats signals.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Devices): LAN devices recurs in every sitting of this post.

Question 52 Networking (Devices)

What does a repeater do on a network?

- A. It assigns IP addresses
- B. It routes packets between networks
- C. It translates between protocols
- D. It regenerates and strengthens the signal ✓ **Predicted answer**

Why this answer? A repeater regenerates the signal so it can travel further along the

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Devices): LAN devices recurs in every sitting of this post.

Question 53 Networking (Devices)

Every network interface card carries a unique hardware address. What is it called?

- A. IP address
- B. MAC address ✓ **Predicted answer**
- C. Port number
- D. Subnet mask

Why this answer? The MAC address is the unique hardware address burned into a network interface card.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Devices): LAN devices recurs in every sitting of this post.

Question 54 Networking (Osi Model)

Which data unit does the network layer move between networks?

- A. Bits
- B. Frames
- C. Packets ✓ **Predicted answer**
- D. None of the options

Why this answer? The network layer moves packets between networks; bits are the physical layer's unit and frames the data link layer's.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q6 (network layer concerns with packets).

55 Networking (Osi Model)

Which OSI layer provides the interface between the system and the user?

- A. Network
- B. Application ✓ **Predicted answer**
- C. Data link
- D. Session

Why this answer? The application layer is the user's interface to the network.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q28 (application layer is the user interface layer).

Question 56 Networking (Osi Model)

In the OSI model, which layer is responsible for routing?

- A. Session layer
- B. Data link layer
- C. Transport layer
- D. Network layer ✓ **Predicted answer**

Why this answer? Routing is performed by the network layer.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q98 (routing is performed by the network layer).

Question 57 Networking (Osi Model)

Which OSI layer handles the physical transmission of raw bits over the medium?

- A. Physical ✓ **Predicted answer**
- B. Data link
- C. Network
- D. Transport

swer? The physical layer transmits raw bits over the medium.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (OSI Model): the seven layers recurs in every sitting of this post.

Question 58 Networking (Osi Model)

Frames and MAC addresses belong to which OSI layer?

- A. Physical
- B. Data link ✓ **Predicted answer**
- C. Network
- D. Transport

Why this answer? The data link layer moves frames on a link and uses MAC addresses.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (OSI Model): the seven layers recurs in every sitting of this post.

Question 59 Networking (Osi Model)

Which OSI layer provides end-to-end delivery between two hosts, using TCP or UDP?

- A. Network
- B. Transport ✓ **Predicted answer**
- C. Session
- D. Presentation

Why this answer? The transport layer provides end-to-end delivery; TCP is connection-oriented and UDP is connectionless.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (OSI Model): the seven layers recurs in every sitting of this post.

60 Networking (Osi Model)

Which OSI layer looks after data format, encryption and compression?

- A. Application
- B. Presentation ✓ **Predicted answer**
- C. Session
- D. Transport

Why this answer? The presentation layer handles data format, encryption and compression.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (OSI Model): the seven layers recurs in every sitting of this post.

Question 61 Networking (Osi Model)

Which OSI layer sets up, manages and ends the dialogs between applications?

- A. Application
- B. Presentation
- C. Session ✓ **Predicted answer**
- D. Network

Why this answer? The session layer manages dialogs (sessions) between applications.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (OSI Model): the seven layers recurs in every sitting of this post.

Question 62 Networking (Fibre Optics)

How many photons must reach an avalanche photodiode receiver for it to detect the transmitted data?

- A. 100 photons
- B. 200 photons ✓ **Predicted answer**

photons

- D. 400 photons

Why this answer? The textbook figure for the avalanche photodiode receiver is 200 photons.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q18 (avalanche photodiode receiver detects 200 photons).

Question 63 Networking (Fibre Optics)

FDDI traffic normally travels on which ring?

- A. Neither primary ring nor secondary ring
- B. The secondary ring
- C. Both primary ring and secondary ring
- D. The primary ring ✓ **Predicted answer**

Why this answer? FDDI traffic normally travels on the primary ring; the secondary ring is a standby.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q48 (FDDI data normally travels on the primary ring).

Question 64 Networking (Fibre Optics)

FDDI's extreme reliability comes mainly from what?

- A. Its dual-ring design ✓ **Predicted answer**
- B. It is a CSMA/CD network
- C. Stations are guaranteed a turn to transmit
- D. Both its dual-ring design and CSMA/CD

Why this answer? The second ring takes over if the primary ring breaks, which is what makes FDDI reliable.

ed [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q64 (FDDI is reliable because of its dual-ring design).

Question 65 Networking (Fibre Optics)

Which type of fibre is used for long-distance links?

- A. Multimode
- B. Step-index only
- C. Plastic fibre
- D. Single-mode ✓ **Predicted answer**

Why this answer? Single-mode fibre carries signals over long distances; multimode suits short runs.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Fibre Optics): fibre types recurs in every sitting of this post.

Question 66 Networking (Fibre Optics)

What is the main advantage of fibre-optic cable over copper cable?

- A. It is immune to electromagnetic interference ✓ **Predicted answer**
- B. It is cheaper to install
- C. It carries electrical signals
- D. It needs no connectors

Why this answer? Fibre carries light, not electricity, so it is immune to electromagnetic interference.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Fibre Optics): fibre advantages recurs in every sitting of this post.

67 Networking (Cabling)

What other name is given to a rollover cable?

- A. An inverted cable
- B. A patch cable
- C. A cross-connect cable
- D. A console cable ✓ **Predicted answer**

Why this answer? A rollover cable is used as a console cable to a device's console port.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q55 (another name for a rollover cable is a console cable).

Question 68 Networking (Cabling)

Interconnections between wiring closets, between a wiring closet and the POP, and between buildings of one LAN are all provided by which type of cabling?

- A. Token-ring cabling
- B. Backbone cabling ✓ **Predicted answer**
- C. Coaxial cabling
- D. Horizontal cabling

Why this answer? Backbone cabling links wiring closets, the POP and buildings.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q68 (backbone cabling links wiring closets, the POP and buildings).

Question 69 Networking (Cabling)

What is the maximum length of a single run of UTP cable in Ethernet?

- A. 10 meters
- B. 50 meters
- C. 100 meters ✓ **Predicted answer**

meters

Why this answer? A single UTP run is limited to 100 metres in Ethernet.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Cabling): structured cabling limits recurs in every sitting of this post.

Question 70 Networking (Cabling)

Category 5e (Cat5e) cable is commonly used for which Ethernet speed?

- A. 10 Mbps
- B. 100 Mbps
- C. 1 Gbps ✓ **Predicted answer**
- D. 10 Gbps

Why this answer? Cat5e supports Gigabit Ethernet (1 Gbps).

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Cabling): cable categories recurs in every sitting of this post.

Question 71 Networking (Cabling)

Category 6 (Cat6) cable supports Ethernet at up to what speed?

- A. 100 Mbps
- B. 1 Gbps
- C. 10 Gbps ✓ **Predicted answer**
- D. 40 Gbps

Why this answer? Cat6 supports 10 Gigabit Ethernet over short distances.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Cabling): cable categories recurs in every sitting of this post.

72 Networking (Standards)

IEEE 802.11 is the standard for what?

- A. WiMAX
- B. Wired LAN
- C. Bluetooth technology
- D. Wireless LAN ✓ **Predicted answer**

Why this answer? 802.11 is the wireless LAN standard family.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q14 (IEEE 802.11 stands for wireless LAN).

Question 73 Networking (Standards)

Which statement about Ethernet varieties is accurate?

- A. 10Base-T uses Cat5 cable and transmits at 10 Mbps ✓ **Predicted answer**
- B. 100Base-FX is multimode fibre transmitting at 10 Mbps
- C. Both statements are correct
- D. Neither statement is correct

Why this answer? 10Base-T runs at 10 Mbps over twisted-pair cable; 100Base-FX runs at 100 Mbps, not 10 Mbps.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q66 (10Base-T uses Cat5 cable at 10 Mbps).

Question 74 Networking (Standards)

WPA2 security (802.11i) operates at which OSI layer?

- A. Layer 1
- B. Layer 2 ✓ **Predicted answer**
- C. Layer 3

Why this answer? 802.11i (WPA2) security operates at the data link layer.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q70 (802.11i is implemented at layer 2).

Question 75 Networking (Standards)

Which IEEE standard covers Ethernet?

- A. 802.11
- B. 802.5
- C. 802.3 ✓ **Predicted answer**
- D. 802.15

Why this answer? IEEE 802.3 is the Ethernet standard.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Standards): IEEE 802 standards recurs in every sitting of this post.

Question 76 Networking (Standards)

Which IEEE standard covers Bluetooth?

- A. 802.3
- B. 802.11
- C. 802.15 ✓ **Predicted answer**
- D. 802.16

Why this answer? IEEE 802.15 covers Bluetooth; 802.11 is Wi-Fi and 802.16 is WiMAX.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Standards): IEEE 802 standards recurs in every sitting of this post.

77 Networking (Protocols)

In routing, RIP is short for what?

- A. Routing Information Protocol ✓ **Predicted answer**
- B. Route Internet Protocol
- C. Router Information Protocol
- D. Route Intranet Protocol

Why this answer? RIP is the Routing Information Protocol.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q12 (RIP is Routing Information Protocol).

Question 78 Networking (Protocols)

What do the initials BGP stand for?

- A. Bridged Gateway Protocol
- B. Border Gone Protocol
- C. Bridge Gateway Protocol
- D. Border Gateway Protocol ✓ **Predicted answer**

Why this answer? BGP is the Border Gateway Protocol.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q13 (BGP is Border Gateway Protocol).

Question 79 Networking (Protocols)

Which transport protocol does DNS normally use for its queries?

- A. TCP
- B. UDP ✓ **Predicted answer**
- C. ICMP
- D. ARP

swer? DNS queries normally use UDP, which is fast and connectionless.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Protocols): protocol behaviour recurs in every sitting of this post.

Question 80 Networking (Protocols)

Which protocol translates an IP address into a MAC address on a local network?

- A. DNS
- B. DHCP
- C. ARP ✓ **Predicted answer**
- D. ICMP

Why this answer? ARP resolves an IP address to the MAC address of a host on the local network.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Protocols): protocol behaviour recurs in every sitting of this post.

Question 81 Networking (Error Control)

What remainder at the receiver tells you a CRC check found no error?

- A. Equal to the remainder at the sender
- B. Zero ✓ **Predicted answer**
- C. Nonzero
- D. The quotient at the sender

Why this answer? A zero remainder means the received data divides cleanly, so no error is detected.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q35 (CRC remainder of zero means no error).

82 Networking (Error Control)

Which error-correction method can be used on a simplex line, where there is no return path for a repeat request?

- A. Cyclic Redundancy Check (CRC) code
- B. A Huffman code
- C. An RSA code
- D. A Hamming code ✓ **Predicted answer**

Why this answer? A Hamming code corrects errors at the receiver with no return channel.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q88 (Hamming code works on a simplex line).

Question 83 Networking (Databases)

Why is a centralised database considered best for security and management?

- A. All the data sits in one place, easy to secure and manage ✓ **Predicted answer**
- B. Copies of the data live on two or more computers
- C. The data is dispersed among many systems
- D. Keeping every copy up to date is a constant problem

Why this answer? One central copy is easiest to secure and manage.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q93 (centralised database is best for security and management).

Question 84 Networking (Databases)

A replicated database keeps a copy of the data on several machines. What price does that exact?

- A. Processors contend to access the data at once

ponse times become slow

- C. Storage costs are high ✓ **Predicted answer**
- D. One disk failure cuts off every processor

Why this answer? Every copy of the data needs storage, so replication costs more storage.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q94 (disadvantage of a replicated database is high storage cost).

Question 85 Networking (Vpn)

VPN tunnels from branch offices all end at one device at the head office. What is it called?

- A. Router
- B. ASA
- C. Head-end device ✓ **Predicted answer**
- D. Software client

Why this answer? The head-end device (VPN concentrator) terminates tunnels at the central site.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q4 (head-end device terminates VPNs at a primary location).

Question 86 Networking (Vpn)

What is the main purpose of a VPN?

- A. To create a secure private connection over a public network ✓ **Predicted answer**
- B. To speed up the Internet connection
- C. To assign IP addresses automatically
- D. To share files between computers

swer? A VPN creates an encrypted private connection over a public network.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (VPN): VPN concepts recurs in every sitting of this post.

Question 87 Networking (Wireless)

Every wireless network has an SSID. What is it for?

- A. To secure the WLAN
- B. To manage the WLAN settings
- C. To identify the WLAN ✓ **Predicted answer**
- D. To configure the WLAN access point

Why this answer? The SSID is the network's name, identifying it to clients.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q49 (SSID identifies the WLAN).

Question 88 Networking (Wireless)

Which frequency band is used by most early Wi-Fi networks?

- A. 900 MHz
- B. 2.4 GHz ✓ **Predicted answer**
- C. 5 GHz
- D. 60 GHz

Why this answer? Early Wi-Fi (802.11b/g) used the 2.4 GHz band.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Wireless): wireless basics recurs in every sitting of this post.

Question 89 Networking (History)

Norman Abramson, working at the University of Hawaii, is known for discovering what?

- B. Repeaters
- C. Bridge
- D. Switch

Why this answer? Abramson created the ALOHAnet random-access protocol at Hawaii.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q15 (Abramson discovered Aloha at the University of Hawaii).

Question 90 Networking (Switching)

Which of these statements about Frame Relay is correct?

- A. It can be considered a broadband packet-switching technology
- B. It performs extensive error checking
- C. It acknowledges each frame transmitted
- D. It allows the use of variable-length packets ✓ **Predicted answer**

Why this answer? Frame Relay uses variable-length frames and does only minimal error detection.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q85 (Frame Relay allows variable-length packets).

Question 91 Networking (Topologies)

If there are n devices in a network and each device has n-1 ports for cables, which topology is it?

- A. Mesh ✓ **Predicted answer**
- B. Star
- C. Bus
- D. Ring

swer? In a full mesh each device connects to every other device, needing n-1 ports.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q50 (mesh topology gives each device n-1 ports).

Question 92 Networking (Topologies)

In a star topology, what happens if the central hub fails?

- A. The whole network goes down ✓ **Predicted answer**
- B. Only one device is affected
- C. Traffic reroutes automatically
- D. Nothing changes

Why this answer? In a star, all devices connect through the central hub, so its failure takes the whole network down.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Topologies): topology behaviour recurs in every sitting of this post.

Question 93 Networking (Safety)

Where is the safety ground connected in a computer?

- A. Exposed metal parts ✓ **Predicted answer**
- B. The monitor
- C. The mouse
- D. The network connection

Why this answer? The safety ground connects to exposed metal parts so a fault cannot make them live.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q52 (safety ground is connected to exposed metal parts).

94 Networking (Number Systems)

What is 24032 in hexadecimal?

- A. ABCD
- B. ADE3
- C. 6DE0
- D. 5DE0 ✓ **Predicted answer**

Why this answer? 5 times 4096 + 13 times 256 + 14 times 16 + 0 = 20480 + 3328 + 224 = 24032.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q59 (decimal 24032 is 5DE0 in hex).

Question 95 Networking (Number Systems)

What is the binary number 1010 in decimal?

- A. 8
- B. 10 ✓ **Predicted answer**
- C. 12
- D. 20

Why this answer? 1010 in binary is 8 + 2 = 10 in decimal.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Number Systems): binary and hex conversions recurs in every sitting of this post.

Question 96 Networking (Media)

Which medium would you avoid if you needed the fastest transmission speed?

- A. Twisted-pair wire ✓ **Predicted answer**
- B. Coaxial cable
- C. Fibre-optic cable

Why this answer? Twisted-pair is the slowest of the listed media; fibre is the fastest.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q30 (slowest transmission speeds are twisted-pair wire).

Question 97 Networking (Security)

One wireless security scheme uses a single shared key for both jobs — encrypting data and authenticating users. Which one?

- A. WPA
- B. WPA2
- C. WEP ✓ **Predicted answer**
- D. 802.11i

Why this answer? WEP uses a single shared key for both encryption and authentication.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q39 (WEP uses the same key for encryption and authentication).

Question 98 Networking (Security)

What is the main job of a firewall?

- A. To store backup copies of data
- B. To assign IP addresses
- C. To boost the wireless signal
- D. To block unauthorised traffic between networks ✓ **Predicted answer**

Why this answer? A firewall blocks unauthorised traffic between networks.

Why predicted [C] — Syllabus anchor: syllabus anchor — Networking (Security): network security basics recurs in every sitting of this post.

99 Networking (Multiplexing)

TDM needs the transmitter and receiver to do what in step?

- A. Statistical TDM makes poor use of bandwidth on probabilistic streams
- B. Be efficient on deterministic streams
- C. Perform efficiently on probabilistic streams
- D. Stay synchronised periodically ✓ **Predicted answer**

Why this answer? TDM slots only work if transmitter and receiver stay synchronised.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q87 (TDM requires transmitter and receiver to be synchronised).

Question 100 Networking (Broadband)

What makes ADSL asymmetric?

- A. It has one data rate for incoming data and another for outgoing data ✓ **Predicted answer**
- B. It is a 64 Kbps leased line
- C. It needs special cabling infrastructure
- D. The phone line cannot carry voice calls at the same time

Why this answer? Asymmetric means faster downstream than upstream.

Why predicted [B] — Verified fact, predicted to recur: PPSC-2014-NETWORK-ENGINEER-2014-06-21 Q90 (ADSL has different rates for incoming and outgoing connections).

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